

CLAIMS:

1. A tilt correction method for correcting an
5 inclination of an object lens relative to an
information recording medium in an optical disk
apparatus, the object lens being used to concentrate
a light beam onto a recording side of the information
recording medium and collect a reflected beam from
10 the recording side, the method comprising the steps
of:

acquiring first information about a specific
inclination of the object lens in response to an
access request to the information recording medium,
15 the specific inclination corresponding to one
obtained when a signal characteristic of a push-pull
signal extracted for track error detection from the
reflected beam becomes a prescribed level in or near
a target access area;

20 acquiring second information about the optimum
inclination of the object lens for the target access
area, based on the first information and tilt
difference information representing a difference
between a first inclination and a second inclination
25 of the object lens defined in advance in a particular

area on the information recording medium, the first inclination corresponding to an optimum reproduced signal from said particular area, and the second inclination being obtained when the signal

5 characteristic of the push-pull signal from said particular area becomes said prescribed level; and

acquiring tilt correction information for correcting the inclination of the object lens based on the second information.

10

2. The method of claim 1, wherein the signal

15 characteristic of the push-pull signal is the amplitude, and said specific inclination and the second inclination are obtained when the amplitude of the push-pull signal becomes substantially the maximum.

20

3. The method of claim 1, wherein the first

25 inclination is obtained when amplitude of an RF

signal becomes substantially the maximum during reproduction of data from said particular area.

5

4. The method of claim 1, wherein the first inclination is obtained when jitter becomes substantially the minimum during reproduction of data
10 from said particular area.

15 5. The method of claim 1, further comprising the step of adjusting the inclination of the object lens based on the tilt correction information.

20

6. A tilt correcting apparatus for correcting an inclination of an object lens relative to an information recording medium for at least a recording
25 operation of recording information in a recording

side of the information recording medium using a light beam, the apparatus comprising:

first means for acquiring first information about a specific inclination of the object lens in response to an access request to the information recording medium, the specific inclination corresponding to one obtained when a signal characteristic of a push-pull signal extracted for track error detection from the light beam reflected from the recording side and collected through the object lens becomes a prescribed level in or near a target access area;

second means for acquiring second information about the optimum inclination of the object lens for the target access area, based on the first information and tilt difference information representing a difference between a first inclination and a second inclination of the object lens defined in advance in a particular area on the information recording medium, the first inclination corresponding to an optimum reproduced signal from said particular area, and the second inclination being obtained when the signal characteristic of the push-pull signal from said particular area becomes said prescribed level; and

third means for correcting the inclination of the

object lens based on the second information.

5

7. The apparatus of claim 6, wherein the first means acquires the specific inclination when the amplitude of the push-pull signal becomes substantially the maximum in the target access area.

10

8. The method of claim 6, wherein the second means
15 acquires the first inclination when amplitude of an RF signal becomes substantially the maximum during reproduction of data from said particular area, and acquires the second inclination when the amplitude of the push-pull signal becomes substantially the
20 maximum in said particular area.

25 9. The apparatus of claim 6, wherein the first

inclination is one obtained when jitter becomes substantially the minimum during reproduction of data in said particular area.

5

10. An optical disk apparatus comprising:
- a light source;
 - 10 an optical system including an object lens configured to guide light flux emitted from the light source onto a recording side of an information recording medium through the object lens and to guide return light flux reflected from the recording side
 - 15 to a prescribed light receiving position;
 - a photodetector located at the light receiving position;
 - a controller that controls at least a recording operation for recording information in the
 - 20 information recording medium based on an output signal from the photodetector; and
 - a tilt correction device that corrects the inclination of the object lens relative to the information recording medium for at least said
 - 25 recording operation, the tilt correction device

including:

- first means for acquiring first information about a specific inclination of the object lens in response to an access request, the specific inclination being obtained when the signal characteristic of a push-pull signal extracted for track error detection from the return light flux becomes a prescribed level in an area including at least the vicinity of a target access area on the recording side;
- second means for acquiring second information about the optimum inclination of the object lens for the target access area, based on the first information and tilt difference information representing a difference between a first inclination and a second inclination of the object lens defined in advance in a particular area on the information recording medium, the first inclination corresponding to an optimum reproduced signal from said particular area, and the second inclination being obtained when the signal characteristic of the push-pull signal from said particular area becomes said prescribed level; and
- third means for correcting the inclination

of the object lens based on the second
information.

5

11. The optical disk apparatus of claim 10, further
comprising a tilt information acquiring means that
acquires the tilt difference information based on the
10 output signal from the photodetector.

15 12. The optical disk apparatus of claim 11, wherein
the tilt difference information acquiring means
causes prescribed dummy data to be recorded in at
least a portion of the recording side of the
information recording medium, prior to acquiring the
20 tilt difference information when no data are recorded
on the recording side of the information recording
medium.

25

13. The optical disk apparatus of claim 10, further comprising a memory for storing the tilt difference information.

5

14. The optical disk apparatus of claim 10, wherein
10 the tilt difference acquiring means acquires the tilt difference information during at least one of the manufacturing process and the adjusting process of the optical disk apparatus.